

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P22196A/BOU	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 00/02290	International filing date (day/month/year) 23/06/2000	(Earliest) Priority Date (day/month/year) 23/06/1999
Applicant MILLIKEN INDUSTRIALS LIMITED et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of Invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

P GB 00/02290

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 D06P1/00 D06P3/82 D06L3/10 A63B39/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 D06P D06L A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ✓	<p>REINCKE K: "WOLLBLEICHE. OEKONOMISCHE, OEKOLOGISCH VERBESSERTE BLEICHVERFAHREN FUER WOLLE"</p> <p>TEXTILVEREDLUNG, CH, THURGAUER TAGBLATT, WEINFELDEN,</p> <p>vol. 34, no. 1/02, January 1999 (1999-01), pages 26-32, XP000828907</p> <p>ISSN: 0040-5310</p> <p>the whole document</p> <p style="text-align: center;">--- -/--</p>	1-27, 30-50



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

18 September 2000

Date of mailing of the international search report

25/09/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Koegler-Hoffmann, S

INTERNATIONAL SEARCH REPORT

International Application No

P GB 00/02290

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>✓ ANGSTMANN D ET AL: "PRETREATMENT OF COTTON KNITGOODS FOR DYEING" INTERNATIONAL DYER, GB, TEXTILE BUSINESS PRESS LTD. LONDON, vol. 183, no. 3, 1 March 1998 (1998-03-01), pages 11, 14-18, XP000776046 ISSN: 0020-658X the whole document</p>	1, 15-23, 27-39
X	<p>✓ US 5 264 001 A (ARIFOGLU MUSTAFA ET AL) 23 November 1993 (1993-11-23) the whole document</p>	1, 2, 4, 27, 30, 35
X	<p>✓ US 5 413 333 A (JANES RICHARD ET AL) 9 May 1995 (1995-05-09) the whole document</p>	30, 33, 51, 52
X	<p>✓ "CHEMICAL ABSTRACTS + INDEXES, US, AMERICAN CHEMICAL SOCIETY. COLUMBUS" CHEMICAL ABSTRACTS + INDEXES, US, AMERICAN CHEMICAL SOCIETY. COLUMBUS, XP000826050 ISSN: 0009-2258 the whole document</p>	1, 27, 30, 35
X	<p>✓ US 3 912 447 A (SCHMIDT OSWALD) 14 October 1975 (1975-10-14) column 1, line 12 - line 20 column 3, line 38 - line 46; claims; examples</p>	1, 27, 30, 35

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

P/GB 00/02290

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5264001	A	23-11-1993	US 4961752 A	09-10-1990
			US 5103522 A	14-04-1992
			AU 618874 B	09-01-1992
			AU 4956590 A	13-08-1990
			EP 0454760 A	06-11-1991
			JP 3504992 T	31-10-1991
			NZ 232161 A	26-08-1992
			WO 9008216 A	26-07-1990
			US 5017194 A	21-05-1991
			US 5084066 A	28-01-1992
US 5413333	A	09-05-1995	NONE	
US 3912447	A	14-10-1975	DE 2311130 B	01-08-1974
			AU 6618274 A	04-09-1975
			GB 1453130 A	20-10-1976
			IT 1003742 B	10-06-1976

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 16 February 2001 (16.02.01)	Applicant's or agent's file reference P22196A/BOU
International application No. PCT/GB00/02290	Priority date (day/month/year) 23 June 1999 (23.06.99)
International filing date (day/month/year) 23 June 2000 (23.06.00)	
Applicant BRASIER, Alan, John et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
27 December 2000 (27.12.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Pascal Piriou
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P22196A/BOU	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/02290	International filing date (day/month/year) 23/06/2000	Priority date (day/month/year) 23/06/1999
International Patent Classification (IPC) or national classification and IPC D06P1/00		
Applicant MILLIKEN INDUSTRIALS LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 8 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 27/12/2000	Date of completion of this report 20.09.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Koegler-Hoffmann, S Telephone No. +49 89 2399 8611



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02290

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-25 as originally filed

Claims, No.:

1-49 as received on 02/08/2001 with letter of 02/08/2001

Drawings, sheets:

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/02290

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	2,3,7-31,41-49
	No:	Claims	1,4-6,32-40
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-49
Industrial applicability (IA)	Yes:	Claims	1-49
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- D1: REINCKE K: 'WOLLBLEICHE. OEKONOMISCHE, OEKOLOGISCH VERBESSERTE BLEICHVERFAHREN FUER WOLLE' TEXTILVEREDLUNG, CH, THURGAUER TAGBLATT, WEINFELDEN, vol. 34, no. 1/02, January 1999 (1999-01), pages 26-32.
- D2: ANGSTMANN D ET AL: 'PRETREATMENT OF COTTON KNITGOODS FOR DYEING' INTERNATIONAL DYER, GB, TEXTILE BUSINESS PRESS LTD. LONDON, vol. 183, no. 3, 1 March 1998 (1998-03-01), pages 11, 14-18.
- D3: US-A-5 264 001
- D4: US-A-5 413 333
- D5: 'CHEMICAL ABSTRACTS + INDEXES, US, AMERICAN CHEMICAL SOCIETY. COLUMBUS' CHEMICAL ABSTRACTS + INDEXES, US, AMERICAN CHEMICAL SOCIETY. COLUMBUS.
- D6: US-A-3 912 447
- D7: US-A-3912447

D1 discloses a method of treating fabric material wherein the material is treated with a bleaching agent and an optical brightening agent (page 2, 2.2 to page 4, 5.). According to the description of the current application (see page 9. last paragraph) the "dyestuff referred to is an optical brightening agent in case of a white fabric material.

Thus, in view of D1, the subject matter of claims 1, 4 to 14, 20, 24, 32 to 45 is not novel and/or does not involve an inventive step (Articles 33(2) and 33(3) PCT).

Dependent claims 15 to 19, 21 to 23 contain features which are obvious in the art (see, for example D2, the use of Basopal).

Document D1 neither suggests nor discloses a method of dyeing a fabric material wherein the fluorescent dye is a yellow dye.

The subject matter of claims 2 and 3 seems to fulfil the requirements of Article 33(2) and 33(3) PCT.

Re Item VII

Certain defects in the international application

The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT.

Re Item VIII

Certain observations on the international application

The present set of claims is unaccepted for the reasons given below.

1. Although claims 24 and 27, 46 and 48 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness.

Hence, claims 24, 27, 46 and 48 do not meet the requirements of Article 6 PCT.

In order to overcome this objection, it would appear appropriate to file an amended set of claims defining the relevant subject-matter in terms of a single independent claim in each category followed by dependent claims covering features which are merely optional (Rule 6.4 PCT).

2. According to the teaching of the whole description of the current application (for example: page 5, last paragraph, page 11, first paragraph, page 14 last paragraph) a wool content of at least 20% by weight of weft yarns is required for a woven fabric having warp and weft yarns.

Moreover, according to page 4, last paragraph the invention is based on the fact that the felt used to produce tennis balls typically has wool content of 40% or

higher.

It is clear therefore from the description that said features are essential to the definition of the invention.

Since independent claims 27, 32, 46 and 48 do not contain these features they do not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

3. Claims 27 and 32 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claims attempt to define the subject-matter in terms of three different parameters. It is, however, clear that said parameters are dependent from several conditions as, for example, the material, the dye, etc. (see page 6, lines 24 to 28 of the current application) which conditions are not mentioned in the claims.

4. Claims for products defined in terms of processes for their preparation (known as "product-by-process" claims) are admissible only if there exists no other possibility to define the product satisfactorily by reference to its composition, structure or some other testable parameter. Claims 24 and 48 should be deleted.

(19) World Intellectual Property Organization
International Bureau



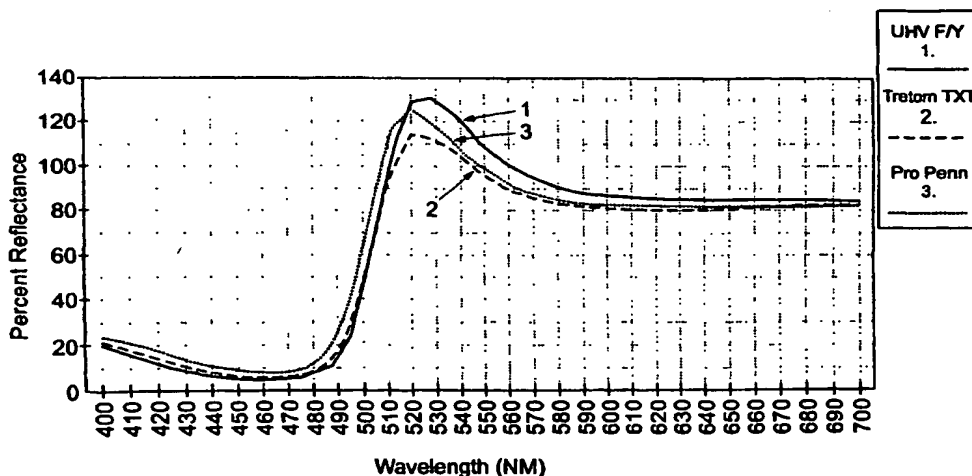
(43) International Publication Date
28 December 2000 (28.12.2000)

PCT

(10) International Publication Number
WO 00/79038 A1

- (51) International Patent Classification⁷: **D06P 1/00**, 3/82, D06L 3/10, A63B 39/00
- (21) International Application Number: **PCT/GB00/02290**
- (22) International Filing Date: **23 June 2000 (23.06.2000)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
9914510.4 23 June 1999 (23.06.1999) GB
0009783.2 20 April 2000 (20.04.2000) GB
0011752.3 17 May 2000 (17.05.2000) GB
- (71) Applicant (for all designated States except US): **MIL-LIKEN INDUSTRIALS LIMITED** [GB/GB]; Wellington Street, Bury, Lancashire BL8 2AY (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **BRASIER, Alan, John** [GB/GB]; 53 Swallowcroft, Eastington, Stonehouse, Gloucestershire GL10 3BH (GB). **SMITH, David, Anthony** [GB/GB]; Mayflower Lodge, Colethrop, Haresfield, Nr Stonehouse, Gloucestershire GL10 3EJ (GB).
- (74) Agent: **MURGITROYD & COMPANY**; 373 Scotland Street, Glasgow G5 8QA (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— With international search report.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **DYED FABRIC MATERIAL, METHOD OF PRODUCING THE SAME AND USE OF THE FABRIC MATERIAL IN THE MANUFACTURE OF SPORTS BALLS**



(57) Abstract: A method of dyeing fabric material which comprises the step of contacting said fabric material with a bleaching agent prior to or simultaneously with contacting said fabric material with a dyestuff providing said colour. The fabric material so obtained is suitable for use in sports ball manufacture, especially tennis ball manufacture. The coloured fabric material preferably includes wool fibres and exhibits the following characteristics after dyeing: i) a chroma value of 100 or more; ii) a lightness value of 95 or more; and iii) a reflectance value of 120 or more. Preferably the dye is a yellow fluorescent dye.

WO 00/79038 A1

REPLACED BY
ART 34 ANDI

Claims :

1. A method of dyeing fabric material which comprises the step of contacting said fabric material with a bleaching agent prior to or simultaneously with a dyestuff providing said colour.
2. The method as claimed in Claim 1, wherein said material is made from a mixture of fibres of different types.
3. The method as claimed in either one of Claims 1 and 2, wherein said material is a felt.
4. The method as claimed in any one of Claims 1 to 3, wherein said material comprises a mixture of wool and synthetic fibres.
5. The method as claimed in Claim 4, wherein said synthetic fibres are polyamide fibres.
6. The method as claimed in Claim 5, wherein said polyamide fibres are Nylon 6,6 fibres.
7. The method as claimed in any one of Claims 1 to 6, wherein the content of wool fibres in said material is at least 20% by weight.

- 1 8. The method as claimed in any one of Claims 1 to
2 7, wherein the content of wool fibres in said
3 material is at least 25% by weight.
4
- 5 9. The method as claimed in any one of Claims 1 to
6 8, wherein the content of wool fibres in said
7 material is at least 40% by weight.
8
- 9 10. The method as claimed in any one of Claims 1 to
10 6, wherein said material is a woven felt
11 comprising warp and weft yarns.
12
- 13 11. The method as claimed in Claim 10, wherein said
14 weft yarns comprise at least 20% by weight of
15 wool.
16
- 17 12. The method as claimed in Claim 10, wherein said
18 weft yarns comprise at least 30% by weight of
19 wool.
20
- 21 13. The method as claimed in Claim 10, wherein said
22 weft yarns comprise at least 40% by weight of
23 wool.
24
- 25 14. The method as claimed in any one of Claims 1 to
26 13, wherein said material is processed in piece
27 form.
28
- 29 15. The method as claimed in any one of Claims 1 to
30 14, wherein said material is contacted with a
31 partitioning agent.

- 1 16. The method as claimed in Claim 15, wherein said
2 partitioning agent is an alkylarylsulphonate in
3 water and comprises 50-60% by weight of the salt
4 of dodecylbenzenesulphonic and triethanolamine.
5
- 6 17. The method as claimed in any one of Claims 1 to
7 16, wherein said material is treated using a
8 jet-dyeing apparatus.
9
- 10 18. The method as claimed in Claim 17, wherein a
11 liquor ratio of from 6:1 to 8:1 is used to run
12 said jet-dyeing apparatus.
13
- 14 19. The method as claimed in Claim 15, wherein the
15 pH of the liquor is of from 4.2 to 4.5.
16
- 17 20. The method as claimed in any one of Claims 1 to
18 19, wherein said material is contacted with the
19 bleaching agent prior to said material being
20 contacted with said dyestuff.
21
- 22 21. The method as claimed in any one of Claims 15 to
23 16, wherein said material is contacted with the
24 partitioning agent prior to said material being
25 contacted with said dyestuff.
26
- 27 22. The method as claimed in any one of Claims 15,
28 16 and 18, wherein said bleaching agent is added
29 simultaneously or quasi-simultaneously with the
30 partitioning agent.
31

- 1 23. The method as claimed in any one of Claims 1 to
2 22, wherein said bleaching agent is an inorganic
3 reducing agent with chelating agents and
4 comprises 30-40% by weight tetrasodium ethylene-
5 diaminetetraacetate and 30-40% by weight
6 disodium disulphite.
7
- 8 24. The method as claimed in any one of Claims 1 to
9 23, wherein the dyestuff is a fluorescent dye.
10
- 11 25. The method as claimed in any one of Claims 1 to
12 24, wherein the dyestuff is a yellow dye.
13
- 14 26. The method as claimed in either one of Claims 24
15 and 25, wherein said yellow dye has a colour
16 index number acid yellow 250.
17
- 18 27. A coloured fabric material obtainable according
19 to the method described in any one of Claims 1
20 to 26.
21
- 22 28. The use of a dyed fabric material as claimed in
23 Claim 27 for the manufacture of a sports ball.
24
- 25 29. The use claimed in Claim 28, wherein said sports
26 ball is a tennis ball.
27
- 28 30. A coloured (non-white) fabric material suitable
29 for use in sports ball manufacture, wherein said
30 material includes wool fibres and exhibits the
31 following characteristics:

- 1 i) a chroma value of 100 or more;
2 ii) a lightness value of 95 or more; and
3 iii) a reflectance value of 120 or more.

4

- 5 31. The fabric material of Claim 30, wherein said
6 chroma value is 105 or more.

7

- 8 32. The fabric material as claimed in either one of
9 Claims 30 and 31, wherein said lightness value
10 is 96 or more.

11

- 12 33. The fabric material as claimed in any one of
13 Claims 30 to 32, wherein said reflectance value
14 is 125 or more.

15

- 16 34. The fabric material as claimed in any one of
17 Claims 30 to 32, which exhibits the following
18 characteristics:

- 19 i) a chroma value of 110 or more;
20 ii) a lightness value of 97 or more; and
21 iii) a reflectance value of 128 or more.

22

- 23 35. A white fabric material suitable for use in
24 sports ball manufacture, wherein said material
25 includes wool fibres and exhibits the following
26 characteristics:

- 27 i) a chroma value of 14 or less;
28 ii) a lightness value of 85 or more;

29 and

- 30 iii) a reflectance value of 100 or
31 more.

1 36. A white fabric material as claimed in Claim 35,
2 wherein said chroma value is 8 or lower.

3
4 37. A white fabric material as claimed in either one
5 of Claims 35 and 36, having a lightness value of
6 92 or greater.

7
8 38. A white fabric material as claimed in any one of
9 Claims 35 to 37, having a reflectance value of
10 85 or more.

11
12 39. A white fabric material as claimed in any one of
13 Claims 35 to 39, which exhibits the following
14 characteristics:

- 15 i) a chroma value of 5 or less;
16 ii) a lightness value of 93 or more; and
17 iii) a reflectance value of 90 or more.

18
19 40. A fabric material as claimed in any one of
20 Claims 30 to 39, wherein said material is made
21 of a mixture of fibres of different types.

22
23 41. A fabric material as claimed in any one of
24 Claims 30 to 41, wherein said material is a
25 felt.

26
27 42. A fabric material as claimed in any one of
28 Claims 30 to 41, wherein said material comprises
29 a mixture of wool and synthetic fibres.

30

- 1 43. A fabric material as claimed in Claim 42,
2 wherein said synthetic fibres are polyamide
3 fibres.
4
- 5 44. A fabric material as claimed in Claim 43,
6 wherein said polyamide fibres are Nylon 6,6
7 fibres.
8
- 9 45. A fabric material as claimed in any one of
10 Claims 30 to 45, wherein the content of wool
11 fibres in said material is at least 20% by
12 weight.
13
- 14 46. A fabric material as claimed in any one of
15 Claims 30 to 45, wherein the content of wool
16 fibres in said material is at least 40% by
17 weight.
18
- 19 47. A fabric material as claimed in any one of
20 Claims 30 to 44, wherein said material is a
21 woven felt comprising warp and weft yarns.
22
- 23 48. A fabric material as claimed in Claim 47,
24 wherein said weft yarns comprise at least 20% by
25 weight of wool.
26
- 27 49. A fabric material as claimed in Claim 48,
28 wherein said weft yarns comprise at least 30% by
29 weight of wool.
30

1 50. A fabric material as claimed in Claim 49,
2 wherein said weft yarns comprise at least 40% by
3 weight of wool.

4

5 51. A sports ball having a fabric material outer
6 surface, said fabric material being a fabric
7 material as defined in any one of Claims 30 to
8 50.

9

10 52. A sports ball as claimed in Claim 51 which is a
11 tennis ball.

12

13 53. A sports ball having a fabric material outer
14 surface, said fabric material being a fabric
15 material as obtained by the method of any one of
16 Claims 1 to 26.

17

18 54. A sports ball as claimed in Claim 53 which is a
19 tennis ball.

20